Canadian Geotechnical Journal

Revue canadienne de géotechnique

Volume 31, 1994
Author Index / Index des auteurs

Achari, G., 140
Addo, K., 703
Al, T.A., 502
Alencar, J., 868
Al-Homoud, A.S., 1015
Al-Otaibi, F., 597
Al-Sanad, H.A., 597
Altaee, A., 420, 649
Andersen, K.H., 817
Assadi, A., 443
Babu, G.L.S., 141
Bakker, K.J., 829
Ballivy, G., 407
Barbour, S.L., 151, 299
Barry, D.A., 471
Basma, A.A., 12
Bathurst, R.J., 547
Benmokrane, B., 407
Biggar, K.W., 395
Blowes, D.W., 502
Bouafia, A., 740
Brooks, G.R., 384
Bruce, I.G., 143
By, T.H., 817
Byrne, P.M., 53, 145, 979
Caers, C.J., 144
Campanella, R.G., 797
Campanella, R.G. (Dick), 343
Carter, J.P., 799
Chan, C., 144
Chan, D.H., 868
Cheng, H., 779
Cherubini, C., 790
Chowdhury, R.N., 614
Christian, H.A., 311
Chu, J., 1022
Clark, J.I., 254, 308, 773
Craig, W.H., 28, 450
Crawford, C.B., 145
Cruden, D.M., 319
Cunha, R.P., 797
De, A., 683
den Adel, H., 829
Dick, J.C., 17
Elberling, B., 375
Enegren, E.G., 749
Evans, S.G., 384, 749
Fahey, M., 799
Fang, Y.S., 431
Fannin, R.J., 555, 564
Fell, R., 261
Fellenius, B.H., 420, 649
Ferreira, R.S., 71
Fredlund, D.G., 151, 521, 533, 795, 1026
Gallavresi, F., 1
Gao, L., 773
Garga, V.K., 769, 885, 902
Gaskin, P.N., 318
Gasson, I., 614
Ghaly, A., 273, 661, 673
Giasi, C.I., 790
Gioda, G., 1
Goodrich, L.E., 491
Graham, J., 42, 773
Guadagno, F.M., 790
Hanna, A., 273, 661, 673
Hayat, T.M., 791
Hazen, G.A., 175
Holtz, R.D., 1023
Honjo, Y., 637
Huang, A.-B., 91
Huang, S., 533
Hughes, J.M.O., 797
Humphrey, D.N., 1023
Hungr, O., 749, 793
Hurd, J.O., 175
Husein (Malkawi), A.I., 1015
Imrie, A.S., 918, 919, 979
Inculet, I.I., 192
Indraratna, B., 614
Instanes, A., 703
Islam, M.S., 132
Ismael, N.F., 597
Jambor, J.L., 502
Jardine, R.J., 79, 181
Jitno, H., 145
Joshi, R.C., 140
Kalachev, V.Y., 454
Khan, M.A., 769
Kilpatrick, B.L., 927, 939
Koenders, M.A., 829
Komine, H., 478
Konrad, J.-M., 223, 285
Kostomarova, V.V., 454
Kulatilake, P.H.S.W., 364
Kulhawy, F.H., 788
Lacroix, A., 61
Lai, C.-H., 204
Lam, L., 795
Law, K.T., 989
Leboeuf, D., 61
Lee, K.M., 467
Lefebvre, G., 61
Lehane, B.M., 79, 181
Li, L., 471
Lin, J.S., 431
Little, T.E., 919
Lo, K.Y., 192, 607, 624
Locatelli, L., 1
Lunne, T.A., 817
Ma, M.Y., 91
Mahmud, M.B., 683
Martin, C.D., 692
Masada, T., 175
Matsumoto, N., 162
Matyas, E.L., 591
Mayne, P.W., 788
Mesri, G., 791
Meyerhof, G.G., 513, 583
Mitchell, R.J., 357, 577
Morgan, M.R., 927
Morgenstern, N., 803
Morgenstern, N.R., 321, 868, 979, 1008, 1022
Morin, P., 254
Morris, P.H., 335
Mouchaorab, K.S., 407
Nagaraj, T.S., 141
Negussey, D., 132
Nicholson, R.V., 375
Nuyens, J., 605
Ogata, N., 478
O'Shaughnessy, V., 885, 902
Ou, C.-Y., 204
Pandian, N.S., 141
Pillai, V.S., 53, 927, 939, 951, 967
Pitman, T.D., 728
Plewes, H.D., 927
Potts, B., 215
Poulos, H.G., 856
Prasad, Y.V.S.N., 110
Psutka, J.F., 919
Quigley, R.M., 624
Rahhal, M.E., 61
Rajani, B., 803
Rao, S.N., 110
Rawlings, C.G., 817

Raymond, G.P., 547, 802
Reardon, E.J., 375
Robert, Y., 246
Robertson, P.K., 71, 119, 321, 728, 939, 1008, 1022
Rowe, R.K., 144, 467
Sabagh, S.K., 28
Sadd, M.H., 841
Salgado, F.M., 967
Santamarina, J.C., 215, 591
Sargand, S.M., 175
Sasitharan, S., 119, 321, 939, 1022
Sastry, V.V.R.N., 513
Scott, J.D., 502
Sego, D.C., 119, 321, 395, 703, 728, 939, 1008, 1022
Selvadurai, A.P.S., 989
Sepehr, K., 491
Seto, J.T.C., 285
Shakoor, A., 17
Shang, J.Q., 192, 607, 624
Shen, S.S., 779
Shi, Y.C., 555
Shirlaw, J.H., 463
Silva, A.J., 841
Silvestri, V., 303
Skopek, P., 1008
Sloan, S.W., 443
Steel, A., 254
Stephansson, O., 364
Stewart, R.A., 951
Stimpson, B., 692
Stokoe, K.H., II, 61
Stone, K.J.L., 471
Su, C.S., 431
Sy, A., 343
Tabib, C., 303
Tal, A.B., 1015
Tan, S.-A., 125
Thavaraj, T., 637
Tian, W.-M., 841
Tibble, P., 375
Trofimov, V.T., 454
Ucpirti, H., 364
Vaid, Y.P., 555, 714
Vallejo, L.E., 1003
Vaziri, H.H., 311
Veyera, G.E., 841
Voznesensky, E.A., 454
Wang, Y., 104, 779
Warde, J., 61
Wells, N., 17
Williams, D.J., 335
Wilson, G.W., 151
Windisch, É.J., 604
Xing, A., 521, 533, 1026
Yalcin, A.S., 583
Yanful, E.K., 299
Yasuda, N., 162
Yin, J.-H., 42, 773
Yue, Z.Q., 989
Zeman, A.J., 570
Zergoun, M., 714
Zhu, F., 308
Zimmie, T.F., 683

Canadian Geotechnical Journal | **Revue canadienne de géotechnique**

Volume 31, 1994

Subject Index / Index des matières[1]

B. Geological and Environmental Aspects

02. *Hydrogeological Aspects*
The hydrogeological and contaminant-transport properties of fractured Champlain Sea clay in Eastern Ontario. Part 1. Hydrogeological properties. O'Shaughnessy, V., and Garga, V.K., 885
The hydrogeological and contaminant-transport properties of fractured Champlain Sea clay in Eastern Ontario. Part 2. Contaminant transport. Garga, V.K., and O'Shaughnessy, V., 902
Geologic and seismic setting pertinent to dam safety review of Duncan Dam. Little, T.E., Imrie, A.S., and Psutka, J.F., 919

06. *Submarine Geological Aspects*
Geologic and seismic setting pertinent to dam safety review of Duncan Dam. Little, T.E., Imrie, A.S., and Psutka, J.F., 919

12. *Other Environmental Aspects*
The geochemistry of mine-waste pore water affected by the combined disposal of natrojarosite and base-metal sulphide tailings at Kidd Creek, Timmins, Ontario. Al, T.A., Blowes, D.W., Jambor, J.L., and Scott, J.D., 502
Quantitative determination of potential distribution in Stern–Gouy double-layer model. Shang, J.Q., Lo, K.Y., and Quigley, R.M., 624
On uncertainty evaluation of contaminant migration through clayey barriers. Honjo, Y., and Thavaraj, T., 637
Accelerated physical modelling of radioactive waste migration in soil. Zimmie, T.F., Mahmud, M.B., and De, A., 683

C. Site Investigations

01. *Airphoto Surveys and Remote Sensing*
On the imaging of stress in particulate media: an experimental study. Santamarina, J.C., and Potts, B., 215

03. *Probings (Soundings)*
An analytical study of cone penetration tests in granular material. Huang, A.-B., and Ma, M.Y., 91

05. *Boring Techniques and Equipment (cf. C 10)*
The effect of a nonlinear Mohr–Coulomb criterion on borehole stresses and damage-zone estimate. Wang, Y., 104
Becker and standard penetration tests (BPT–SPT) correlaions with consideration of casing friction. Sy, A., and Campanella, R.G.(Dick), 343
The effect of sample disturbance on laboratory properties of Lac du Bonnet granite. Martin, C.D., and Stimpson, B., 692
In situ sampling, density measurements, and testing of foundation soils at Duncan Dam. Plewes, H.D., Pillai, V.S., Morgan, M.R., and Kilpatrick, B.L., 927
Ground freezing and sampling of foundation soils at Duncan Dam. Sego, D.C., Robertson, P.K., Sasitharan, S., Kilpatrick, B.L., and Pillai, V.S., 939

06. *Sampling*
In situ sampling, density measurements, and testing of foundation soils at Duncan Dam. Plewes, H.D., Pillai, V.S., Morgan, M.R., and Kilpatrick, B.L., 927

07. *Measurement of Field Conditions (incl. Post-Construction Monitoring)*
An analytical study of cone penetration tests in granular material. Huang, A.-B., and Ma, M.Y., 91
The coefficient of earth pressure at rest: Discussion. Cherubini, C., Giasi, C.I., and Guadagno, F.M., 790
A finite element study of the pressuremeter test in sand using a nonlinear elastic model: Discussion. Hughes, J.M.O., Campanella, R.G., and Cunha, R.P., 797
A finite element study of the pressuremeter test in sand using a nonlinear elastic plastic model: Reply. Fahey, M., and Carter, J.P., 799
The hydrogeological and contaminant-transport properties of fractured Champlain Sea clay in Eastern Ontario. Part 1. Hydrogeological properties. O'Shaughnessy, V., and Garga, V.K., 885
The hydrogeological and contaminant-transport properties of fractured Champlain Sea clay in Eastern Ontario. Part 2. Contaminant transport. Garga, V.K., and O'Shaughnessy, V., 902
In situ sampling, density measurements, and testing of foundation soils at Duncan Dam. Plewes, H.D., Pillai, V.S., Morgan, M.R., and Kilpatrick, B.L., 927

08. *Field Testing (excl. Tests for Engineering Properties, see Groups D and F)*
Large-strain undrained pressuremeter interpretation based on loading and unloading data. Ferreira, R.S., and Robertson, P.K., 71
An analytical study of cone penetration tests in granular material. Huang, A.-B., and Ma, M.Y., 91
A comparison of pressuremeter test results in sea ice. Steel, A., Clark, J.I., and Morin, P., 254
Effective stress vane shear strength correction factor correlations. Morris, P.H., and Williams, D.J., 335
Tension tests on bored piles in cemented desert sands. Ismael, N.F., Al-Sanad, H.A., and Al-Otaibi, F., 597

[1] Based on the International Geotechnical Classification System (IGC) as revised 1981.

D. Soil Properties: Laboratory and In-Situ Determinations

01. *Classification and Description of Soils*

An introduction to the mechanics of soils and foundations through critical state soil mechanics. Gaskin, P.N., 318

Becker and standard penetration tests (BPT–SPT) correlations with consideration of casing friction. Sy, A., and Campanella, R.G.(Dick), 343

02. *Physico-Chemical Properties*

Coupled soil–atmosphere modelling for soil evaporation. Wilson, G.W., Fredlund, D.G., and Barbour, S.L., 151

Electrical strengthening of clays by dielectrophoresis. Lo, K.Y., Shang, J.Q., and Inculet, I.I., 192

A column study of static nonequilibrium fluid pressures in sand during prolonged drainage. Barbour, S.L., and Yanful, E.K., 299

State-boundary surface for very loose sand and its practical implications. Sasitharan, S., Robertson, P.K., Sego, D.C., and Morgenstern, N.R., 321

Evaluation of sulphide oxidation rates: a laboratory study comparing oxygen fluxes and rates of oxidation product release. Elberling, B., Nicholson, R.V., Reardon, E.J., and Tibble, P., 375

Experimental study on swelling characteristics of compacted bentonite. Komine, H., and Ogata, N., 478

The geochemistry of mine-waste pore water affected by the combined disposal of natrojarosite and base-metal sulphide tailings at Kidd Creek, Timmins, Ontario. Al, T.A., Blowes, D.W., Jambor, J.L., and Scott, J.D., 502

Subaqueous capping of very soft contaminated sediments. Zeman, A.J., 570

Effects of intervening media on dielectrophoretic strengthening of soft clays. Lo, K.Y., and Shang, J.Q., 607

Quantitative determination of potential distribution in Stern–Gouy double-layer model. Shang, J.Q., Lo, K.Y., and Quigley, R.M., 624

04. *Hydraulic Properties*

A reexamination of the permeability index of clays: Discussion. Achari, G., and Joshi, R.C., 140

A reexamination of the permeability index of clays: Reply. Pandian, N.S., Babu, G.L.S., and Nagaraj, T.S., 141

A column study of static nonequilibrium fluid pressures in sand during prolonged drainage. Barbour, S.L., and Yanful, E.K., 299

Matrix suction and diffusive transport in centrifuge models. Mitchell, R.J., 357

Centrifugal modelling of nonsorbing, nonequilibrium solute transport in a locally inhomogeneous soil. Li, L., Barry, D.A., and Stone, K.J.L., 471

Equations for the soil-water characteristic curve. Fredlund, D.G., and Xing, A., 521

Predicting the permeability function for unsaturated soils using the soil-water characteristic curve. Fredlund, D.G., Xing, A., and Huang, S., 533

Centrifuge techniques for testing clay liner samples. Mitchell, R.J., 577

Modelling unanticipated pore-water pressures in soft clays. Yin, J., Graham, J., Clark, J.I., and Gao, L., 773

Estimation of hydraulic fracture pressure in clay. Andersen, K.H., Rawlings, C.G., Lunne, T.A., and By, T.H., 817

Evaluation of liquefaction potential of foundation soils at Duncan Dam. Pillai, V.S., and Stewart, R.A., 951

Post-liquefaction stability and deformation analysis of Duncan Dam. Pillai, V.S., and Salgado, F.M., 967

Excess pore pressure in a poroelastic seabed saturated with a compressible fluid. Yue, Z.Q., Selvadurai, A.P.S., and Law, K.T., 989

05. *Compressibility and Swelling*

Hyperbolic method for settlements in clay with vertical drains. Tan, S.-A., 125

Experimental study on swelling characteristics of compacted bentonite. Komine, H., and Ogata, N., 478

Application of Terzaghi's consolidation theory to nearly saturated soils. Vaziri, H.H., and Christian, H.A., 311

Subaqueous capping of very soft contaminated sediments. Zeman, A.J., 570

A simple design for hydraulic consolidometer and volume gauge. Khan, M.A., and Garga, V.K., 769

Drained creep of undisturbed cohesive marine sediments. Tian, W.-M., Silva, A.J., Veyera, G.E., and Sadd, M.H., 841

Collapse behavior of sand: Discussion. Chu, J., 1022

Collapse behavior of sand: Reply. Sasitharan, S., Robertson, P.K., Sego, D.C., and Morgenstern, N.R., 1022

06. *Shear-Deformation and Strength Properties*

Equivalent times and one-dimensional elastic viscoplastic modelling of time-dependent stress–strain behaviour of clays. Yin, J.-H., and Graham, J., 42

Laboratory and field determinations of small-strain shear modulus for a structured Champlain clay. Lefebvre, G., Leboeuf, D., Rahhal, M.E., Lacroix, A., Warde, J., and Stokoe, K.H., II, 61

Large-strain undrained pressuremeter interpretation based on loading and unloading data. Ferreira, R.S., and Robertson, P.K., 71

The effect of a nonlinear Mohr–Coulomb criterion on borehole stresses and damage-zone estimate. Wang, Y., 104

Uniqueness of steady state and liquefaction potential. Negussey, D., and Islam, M.S., 132

Sixteenth Canadian Geotechnical Colloquium: Frost heave in soils: concepts and engineering. Konrad, J.-M., 223

An introduction to the mechanics of soils and foundations through critical state soil mechanics. Gaskin, P.N., 318

Effective stress vane shear strength correction factor correlations. Morris, P.H., and Williams, D.J., 335

Undrained stability of a plane strain heading. Sloan, S.W., and Assadi, A., 443

Effects of intervening media on dielectrophoretic strengthening of soft clays. Lo, K.Y., and Shang, J.Q., 607

Effective stress response of clay to undrained cyclic loading. Zergoun, M., and Vaid, Y.P., 714

Influence of fines on the collapse of loose sands. Pitman, T.D., Robertson, P.K., and Sego, D.C., 728

Evolution of the plastic zone near a microfracture: a numerical simulation and its implications on in situ stress measurement. Wang, Y., Shen, S.S., and Cheng, H., 779

The coefficient of earth pressure at rest: Discussion. Cherubini, C., Giasi, C.I., and Guadagno, F.M., 790

Estimation of hydraulic fracture pressure in clay. Andersen, K.H., Rawlings, C.G., Lunne, T.A., and By, T.H., 817

Drained creep of undisturbed cohesive marine sediments. Tian, W.-M., Silva, A.J., Veyera, G.E., and Sadd, M.H., 841

07. *Dynamic Properties*
Effect of overburden pressure on liquefaction resistance of sand. Pillai, V.S., and Byrne, P.M., 53
Laboratory and field determinations of small-strain shear modulus for a structured Champlain clay. Lefebvre, G., Leboeuf, D., Rahhal, M.E., Lacroix, A., Warde, J., and Stokoe, K.H., II, 61
The effect of dynamic loading on lateral stress in sand. Zhu, F., and Clark, J.I., 308
State-boundary surface for very loose sand and its practical implications. Sasitharan, S., Robertson, P.K., Sego, D.C., and Morgenstern, N.R., 321
Dynamic instability of seasonally thawing silty soils. Voznesensky, E.A., Kalachev, V.Y., Trofimov, V.T., and Kostomarova, V.V., 454
Effective stress response of clay to undrained cyclic loading. Zergoun, M., and Vaid, Y.P., 714
Influence of fines on the collapse of loose sands. Pitman, T.D., Robertson, P.K., and Sego, D.C., 728
Étude expérimentale du chargement latéral cyclique répété des pieux isolés dans le sable en centrifugeuse. Bouafia, A., 740
Evaluation of liquefaction potential of foundation soils at Duncan Dam. Pillai, V.S., and Stewart, R.A., 951
Post-liquefaction stability and deformation analysis of Duncan Dam. Pillai, V.S., and Salgado, F.M., 967
Results and implications of seismic performance studies for Duncan Dam. Byrne, P.M., Imrie, A.S., and Morgenstern, N.R., 979
Excess pore pressure in a poroelastic seabed saturated with a compressible fluid. Yue, Z.Q., Selvadurai, A.P.S., and Law, K.T., 989
Collapse of dry sand. Skopek, P., Morgenstern, N.R., Robertson, P.K., and Sego, D.C., 1008

08. *Thermal Properties*
A numerical and experimental study of the artificial freezing of sand. Gioda, G., Locatelli, L., and Gallavresi, F., 1
Sixteenth Canadian Geotechnical Colloquium: Frost heave in soils: concepts and engineering. Konrad, J.-M., 223
Time-dependent displacement behaviour of model adfreeze and grouted piles in saline frozen soils. Biggar, K.W., and Sego, D.C., 395
Dymanic instability of seasonally thawing silty soils. Voznesensky, E.A., Kalachev, V.Y., Trofimov, V.T., and Kostomarova, V.V., 454
Frost protection of buried PVC water mains in western Canada. Sepehr, K., and Goodrich, L.E., 491
Comparison of predicted and observed responses of pipeline to differential frost heave. Rajani, B., and Morgenstern, N., 803
Ground freezing and sampling of foundation soils at Duncan Dam. Sego, D.C., Robertson, P.K., Sasitharan, S., Kilpatrick, B.L., and Pillai, V.S., 939

09. *Compactibility*
Frost protection of buried PVC water mains in western Canada. Sepehr, K., and Goodrich, L.E., 491
Utilization of compacted coal tailings as a structural fill. Indraratna, B., Gasson, I., and Chowdhury, R.N., 614

E. Analysis of Soil-Engineering Problems

01. *Stress Analysis*
On the imaging of stress in particulate media: an experimental study. Santamarina, J.C., and Potts, B., 215
Negative skin friction and the neutral plane. Matyas, E.L., and Santamarina, J.C., 591
The coefficient of earth pressure at rest: Discussion. Mayne, P.W., and Kulhawy, F.H., 788
The coefficient of earth pressure at rest: Reply. Mesri, G., and Hayat, T.M., 791

02. *Deformation and Settlement Problems*
The influence of lateral spreading on settlements beneath a fill. Crawford, C.B., Jitno, H., and Byrne, P.M., 145
An estimation of ground settlement due to shield tunnelling by the Peck–Fujita method. Fang, Y.S., Lin, J.S., and Su, C.S., 431
Analysis of foundation deformations beneath the Syncrude tailings dyke. Alencar, J., Morgenstern, N.R., and Chan, D.H., 868

03. *Bearing Capacity of Shallow Foundations*
Risk-reduction factor for bearing capacity of shallow foundations. Basma, A.A., 12
Pullout behaviour of model pile and helical pile anchors subjected to lateral cyclic loading. Prasad, Y.V.S.N., and Rao, S.N., 110
Model investigation of the performance of single anchors and groups of anchors. Ghaly, A., and Hanna, A., 273
Time-dependent displacement behaviour of model adfreeze and grouted piles in saline frozen soils. Biggar, K.W., and Sego, D.C., 395
Tension tests on bored piles in cemented desert sands. Ismael, N.F., Al-Sanad, H.A., and Al-Otaibi, F., 597
Ultimate pullout resistance of single vertical anchors. Ghaly, A., and Hanna, A., 661
Ultimate pullout resistance of groups of vertical anchors. Hanna, A., and Ghaly, A., 673

04. *Bearing Capacity of Piles and other Deep Foundations*
Stress-level effects in model tests on piles. Craig, W.H., and Sabagh, S.K., 28
Displacement pile behaviour in glacial clay, Lehane, B.M., and Jardine, R.J., 79
Displacement-pile behaviour in a soft marine clay. Lehane, B.M., and Jardine, R.J., 181
A new approach to the analysis of high-strain dynamic pile test data. Robert, Y., 246
A reexamination of the strain field around a simple pile. Silvestri, V., and Tabib, C., 303
Becker and standard penetration tests (BPT–SPT) correlations with consideration of casing friction. Sy, A., and Campanella, R.G.(Dick), 343
Laboratory investigation of shaft resistance of rock-socketed piers using the constant normal stiffness direct shear test. Benmokrane, B., Mouchaorab, K.S., and Ballivy, G., 407
Behaviour of flexible piles in layered sands under eccentric and inclined loads. Sastry, V.V.R.N., and Meyerhof, G.G., 513
Negative skin friction and the neutral plane. Matyas, E.L., and Santamarina, J.C., 591

05. *Earth Pressure Problems*
The effect of dynamic loading on lateral stress in sand. Zhu, F., and Clark, J.I., 308
Undrained stability of a plane strain heading. Sloan, S.W., and Assadi, A., 443

06. *Stability of Slopes and Excavations*
Landslides / Glissements de terrain. Bruce, I.G., 143

Finite-element analysis of deep excavation in layered sandy and clayey soil deposits. Ou, C.-Y., and Lai, C.-H., 204
Landslide risk assessment and acceptable risk. Fell, R., 261
An earthflow in sensitive Champlain Sea sediments at Lemieux, Ontario, June 20, 1993, and its impact on the South Nation River. Evans, S.G., and Brooks, G.R., 384
Instability of stabilization of an embankment on the Irbid–Amman Highway in Jordan. Al-Homoud, A.S., Tal, A.B., and Husein (Malkawi), A.I., 1015
Application de la méthode de Bishop simplifiée aux remblais renforcés par les géosynthétiques : Discussion. Humphrey, D.N., and Holtz, R.D., 1023

07. *Seepage and other Hydraulic Problems*
Filtration behaviour of nonwoven geotextiles. Fannin, R.J., Vaid, Y.P., and Shi, Y.C., 555
On uncertainty evaluation of contaminant migration through clayey barriers. Honjo, Y., and Thavaraj, T., 637

08. *Dynamic Problems*
Effect of overburden pressure on liquefaction resistance of sand. Pillai, V.S., and Byrne, P.M., 53
A new approach to the analysis of high-strain dynamic pile test data. Robert, Y., 246

09. *Frost Action and Heat-Transfer Problems*
Sixteenth Canadian Geotechnical Colloquium: Frost heave in soils: concepts and engineering. Konrad, J.-M., 223
Frost heave characteristics of undisturbed sensitive Champlain Sea clay. Konrad, J.-M., and Seto, J.T.C., 285
Time-dependent displacement behaviour of model adfreeze and grouted piles in saline frozen soils. Biggar, K.W., and Sego, D.C., 395
Size effects in anchor performance. Craig, W.H., 450
Comparison of predicted and observed responses of pipeline to differential frost heave. Rajani, B., and Morgenstern, N., 803

10. *Analysis of Layered Systems and Pavements Behaviour*
A reexamination of the strain field around a simple pile. Silvestri, V., and Tabib, C., 303

12. *Soil-Structure Interaction*
Size effects in anchor performance. Craig, W.H., 450
Field observations on the load–strain–time behaviour of geogrid reinforcement. Fannin, R.J., 564
Tension tests on bored piles in cemented desert sands. Ismael, N.F., Al-Sanad, H.A., and Al-Otaibi, F., 597
Application de la méthode de Bishop simplifiée aux remblais renforcés par les géosynthétiques : Discussion. Windisch, É.J., 604
Application de la méthode de Bishop simplifiée aux remblais renforcés par les géosynthétiques : Réponse. Nuyens, J., 605
Application de la méthode de Bishop simplifiée aux remblais renforcés par les géosynthétiques : Discussion. Humphrey, D.N., and Holtz, R.D., 1023

13. *Mathematical Methods, Computer Analysis*
A numerical and experimental study of the artificial freezing of sand. Gioda, G., Locatelli, L., and Gallavresi, F., 1
Risk-reduction factor for bearing capacity of shallow foundations. Basma, A.A., 12
Equivalent times and one-dimensional elastic viscoplastic modelling of time-dependent stress–strain behaviour of clays. Yin, J.-H., and Graham, J., 42
Hyperbolic method for settlements in clay with vertical drains. Tan, S.-A., 125
The influence of lateral spreading on settlements beneath a fill. Crawford, C.B., Jitno, H., and Byrne, P.M., 145
Coupled soil–atmosphere modelling for soil evaporation. Wilson, G.W., Fredlund, D.G., and Barbour, S.L., 151
Finite-element analysis of deep excavation in layered sandy and clayey soil deposits. Ou, C.-Y., and Lai, C.-H., 204
Landslide risk assessment and acceptable risk. Fell, R., 261
A reexamination of the strain field around a simple pile. Silvestri, V., and Tabib, C., 303
Physical modeling in sand. Altaee, A., and Fellenius, B.H., 420
Equations for the soil-water characteristic curve. Fredlund, D.G., and Xing, A., 521
Predicting the permeability function for unsaturated soils using the soil-water characteristic curve. Fredlund, D.G., Xing, A., and Huang, S., 533
Ultimate pullout resistance of single vertical anchors. Ghaly, A., and Hanna, A., 661
Ultimate pullout resistance of groups of vertical anchors. Hanna, A., and Ghaly, A., 673
Modelling unanticipated pore-water pressures in soft clays. Yin, J., Graham, J., Clark, J.I., and Gao, L., 773
Evolution of the plastic zone near a microfracture: a numerical simulation and its implications on in situ stress measurement. Wang, Y., Shen, S.S., and Cheng, H., 779
A general limit equilibrium model for three-dimensional slope stability analysis: Discussion. Hungr, O., 793
A general limit equilibrium model for three-dimensional slope stability analysis: Reply. Lam, L., and Fredlund, D.G., 795
A finite element study of the pressuremeter test in sand using a nonlinear elastic model: Discussion. Hughes, J.M.O., Campanella, R.G., and Cunha, R.P., 797
A finite element study of the pressuremeter test in sand using a nonlinear elastic plastic model: Reply. Fahey, M., and Carter, J.P., 799
Excess pore pressure in a poroelastic seabed saturated with a compressible fluid. Yue, Z.Q., Selvadurai, A.P.S., and Law, K.T., 989
Collapse of dry sand. Skopek, P., Morgenstern, N.R., Robertson, P.K., and Sego, D.C., 1008

14. *Model Test Analysis*
Stress-level effects in model tests on piles. Craig, W.H., and Sabagh, S.K., 28
Pullout behaviour of model pile and helical pile anchors subjected to lateral cyclic loading. Prasad, Y.V.S.N., and Rao, S.N., 110
Model investigation of the performance of single anchors and groups of anchors. Ghaly, A., and Hanna, A., 273
Matrix suction and diffusive transport in centrifuge models. Mitchell, R.J., 357
Physical modeling in sand. Altaee, A., and Fellenius, B.H., 420
Centrifugal modelling of nonsorbing, nonequilibrium solute transport in a locally inhomogeneous soil. Li, L., Barry, D.A., and Stone, K.J.L., 471

On uncertainty evaluation of contaminant migration through clayey barriers. Honjo, Y., and Thavaraj, T., 637
Accelerated physical modelling of radioactive waste migration in soil. Zimmie, T.F., Mahmud, M.B., and De, A., 683
Étude expérimentale du chargement latéral cyclique répété des pieux isolés dans le sable en centrifugeuse. Bouafia, A., 740

F. Rock Properties: Laboratory and In-Situ Determinations

01. *Classification and Description of Rocks and Rock Masses*
A geological approach toward developing a mudrock-durability classification system. Dick, J.C., Shakoor, A., and Wells, N., 17
Effects of finite-size joints on the deformability of jointed rock at the two-dimensional level. Kulatilake, P.H.S.W., Ucpirti, H., and Stephansson, O., 364
The effect of sample disturbance on laboratory properties of Lac du Bonnet granite. Martin, C.D., and Stimpson, B., 692
02. *Physio-Chemical Properties*
Fractal analysis of the slake durability test. Vallejo, L.E., 1003
03. *Composition, Density, and Structural Features*
Sample disturbance from shear wave velocity measurements. Sasitharan, S., Robertson, P.K., and Sego, D.C., 119
Fractal analysis of the slake durability test. Vallejo, L.E., 1003
06. *Shear-Deformation and Strength Properties*
Comparisons of deformation characteristics of rockfill materials using monotonic and cyclic loading laboratory tests and in situ tests. Yasuda, N., and Matsumoto, N., 162
Effects of finite-size joints on the deformability of jointed rock at the two-dimensional level. Kulatilake, P.H.S.W., Ucpirti, H., and Stephansson, O., 364
The effect of sample disturbance on laboratory properties of Lac du Bonnet granite. Martin, C.D., and Stimpson, B., 692
07. *Dynamic Properties*
Sample disturbance from shear wave velocity measurements. Sasitharan, S., Robertson, P.K., and Sego, D.C., 119
Uniqueness of steady state and liquefaction potential. Negussey, D. and Islam, M.S., 132
Comparisons of deformation characteristics of rockfill materials using monotonic and cyclic loading laboratory tests and in situ tests. Yasuda, N., and Matsumoto, N., 162

G. Analysis of Rock-Engineering Problems

06. *Stability of Rock Slopes and Open Excavations*
Landslides / Glissements de terrain. Bruce, I.G., 143
Rock slope stability analysis. Cruden, D.M., 319
The Avalanche Lake rock avalanche, Mackenzie Mountains, Northwest Territories, Canada: description, dating, and dynamics. Evans, S.G., Hungr, O., and Enegren, E.G., 749
08. *Dynamic Problems*
Repeated-load response of aggregates in relation to track quality index. Raymond, G.P., and Bathurst, R.J., 547
The Avalanche Lake rock avalanche, Mackenzie Mountains, Northwest Territories, Canada: description, dating, and dynamics. Evans, S.G., Hungr, O., and Enegren, E.G., 749
12. *Rock-Structure-Interaction*
Repeated-load response of aggregates in relation to track quality index. Raymond, G.P., and Bathurst, R.J., 547

H. Design, Construction, and Behaviour of Engineering Works

02. *Retaining Structures and Cut-off Walls*
Field observations on the load–strain–time behaviour of geogrid reinforcement. Fannin, R.J., 564
03. *Offshore Structures*
Modeling the performance of the Molikpaq. Altaee, A., and Fellenius, B.H., 649
Construction and characterization of a spray-ice pad, Tuktoyaktuk, Northwest Territories. Instanes, A., Sego, D.C., and Addo, K., 703
04. *Dams and Reservoirs*
Analysis of foundation deformations beneath the Syncrude tailings dyke. Alencar, J., Morgenstern, N.R., and Chan, D.H., 868
Overview of the liquefaction assessment and seismic stability of Duncan Dam: Specialty session, 46th Annual Canadian Geotechnical Conference Saskatoon, Saskatchewan, September 27–29, 1993. Imrie, A.S., 918
Geologic and seismic setting pertinent to dam safety review of Duncan Dam. Little, T.E., Imrie, A.S., and Psutka, J.F., 919
In situ sampling, density measurements, and testing of foundation soils at Duncan Dam. Plewes, H.D., Pillai, V.S., Morgan, M.R., and Kilpatrick, B.L., 927
Ground freezing and sampling of foundation soils at Duncan Dam. Sego, D.C., Robertson, P.K., Sasitharan, S., Kilpatrick, B.L., and Pillai, V.S., 939
Evaluation of liquefaction potential of foundation soils at Duncan Dam. Pillai, V.S., and Stewart, R.A., 951
Post-liquefaction stability and deformation analysis of Duncan Dam. Pillai, V.S., and Salgado, F.M., 967
Results and implications of seismic performance studies for Duncan Dam. Byrne, P.M., Imrie, A.S., and Morgenstern, N.R., 979

05. *Tunnels and Underground Openings*
An estimation of ground settlement due to shield tunnelling by the Peck–Fujita method. Fang, Y.S., Lin, J.S., and Su, C.S., 431
Subsidence owing to tunnelling. II. Evaluation of a prediction technique: Discussion. Shirlaw, J.H., 463
Subsidence owing to tunnelling. II. Evaluation of a prediction technique: Reply. Rowe, R.K., and Lee, K.M., 467
06. *Roads, Railroads, and Airfields*
Utilization of compacted coal tailings as a structural fill. Indraratna, B., Gasson, I., and Chowdhury, R.N., 614
Instability of stabilization of an embankment on the Irbid–Amman Highway in Jordan. Al-Homoud, A.S., Tal, A.B., and Husein (Malkawi), A.I., 1015
08. *Conduits and Culverts*
Long-term field study of a deep-corrugated metal box type culvert. Sargand, S.M., Hazen, G.A., Masada, T., and Hurd, J.O., 175
Comparison of predicted and observed responses of pipeline to differential frost heave. Rajani, B., and Morgenstern, N., 803
09. *Slopes and Unsupported Excavations*
Application de la méthode de Bishop simplifiée aux remblais renforcés par les géosynthétiques : Discussion. Windisch, É.J., 604
Application de la méthode de Bishop simplifiée aux remblais renforcés par les géosynthétiques : Réponse. Nuyens, J., 605
A general limit equilibrium model for three-dimensional slope stability analysis: Discussion. Hungr, O., 793
A general limit equilibrium model for three-dimensional slope stability analysis: Reply. Lam, L., and Fredlund, D.G., 795

K. Construction Methods and Equipment

01. *Drainage Methods*
Hyperbolic method for settlements in clay with vertical drains. Tan, S.-A., 125
Filtration behaviour of nonwoven geotextiles. Fannin, R.J., Vaid, Y.P., and Shi, Y.C., 555
Review of granular and geotextile filters. Raymond, G.P., 802
06. *Soil Stabilization and Erosion Control*
Electrical strengthening of clays by dielectrophoresis. Lo, K.Y., Shang, J.Q., and Inculet, I.I., 192
The analysis of relaxed criteria for erosion-control filters. den Adel, H., Koenders, M.A., and Bakker, K.J., 829
07. *Piles and Pile Driving, incl. Sheet Piles*
Bearing capacity of flexible batter piles under eccentric and inclinded loads in layered soil. Meyerhof, G.G., and Yalcin, A.S., 583
Étude expérimentale du chargement latéral cyclique répété des pieux isolés dans le sable en centrifugeuse. Bouafia, A., 740
Effect of pile driving on adjacent piles in clay. Poulos, H.G., 856
12. *Offshore Construction*
Modeling the performance of the Molikpaq. Altaee, A., and Fellenius, B.H., 649
Construction and characterization of a spray-ice pad, Tuktoyaktuk, Northwest Territories. Instanes, A., Sego, D.C., and Addo, K., 703
14. *Measures for Improving Deformation and Stability Conditions, Reconstruction of Foundations*
Electrical strengthening of clays by dielectrophoresis. Lo, K.Y., Shang, J.Q., and Inculet, I.I., 192

S. Snow and Ice Mechanics and Engineering

02. *Snow and Ice Cover*
A comparison of pressuremeter test results in sea ice. Steel, A., Clark, J.I., and Morin, P., 254
Construction and characterization of a spray-ice pad, Tuktoyaktuk, Northwest Territories. Instanes, A., Sego, D.C., and Addo, K., 703

T. Related Disciplines

06. *Civil Engineering*
Landslides / Glissements de terrain. Bruce, I.G., 143
Repeated-load response of aggregates in relation to track quality index. Raymond, G.P., and Bathurst, R.J., 547
07. *Mining Engineering and Ore Prospecting*
Landslides / Glissements de terrain. Bruce, I.G., 143
Evaluation of sulphide oxidation rates: a laboratory study comparing oxygen fluxes and rates of oxidation product release. Elberling, B., Nicholson, R.V., Reardon, E.J., and Tibble, P., 375
The geochemistry of mine-waste pore water affected by the combined disposal of natrojarosite and base-metal sulphide tailings at Kidd Creek, Timmins, Ontario. Al, T.A., Blowes, D.W., Jambor, J.L., and Scott, J.D., 502
Utilization of compacted coal tailings as a structural fill. Indraratna, B., Gasson, I., and Chowdhury, R.N., 614
Analysis of foundation deformations beneath the Syncrude tailings dyke. Alencar, J., Morgenstern, N.R., and Chan, D.H., 868
14. *Environmental Problems and Nature Conservation*
Matrix suction and diffusive transport in centrifuge models. Mitchell, R.J., 357
Evaluation of sulphide oxidation rates: a laboratory study comparing oxygen fluxes and rates of oxidation product release. Elberling, B., Nicholson, R.V., Reardon, E.J., and Tibble, P., 375
Centrifugal modelling of nonsorbing, nonequilibrium solute transport in a locally inhomogeneous soil. Li, L., Barry, D.A., and Stone, K.J.L., 471

Subaqueous capping of very soft contaminated sediments. Zeman, A.J., 570
Centrifuge techniques for testing clay liner samples. Mitchell, R.J., 577
On uncertainty evaluation of contaminant migration through clayey barriers. Honjo, Y., and Thavaraj, T., 637
Accelerated physical modelling of radioactive waste migration in soil. Zimmie, T.F., Mahmud, M.B., and De, A., 683
The hydrogeological and contaminant-transport properties of fractured Champlain Sea clay in Eastern Ontario. Part 1. Hydrogeological properties. O'Shaughnessy, V., and Garga, V.K., 885
The hydrogeological and contaminant-transport properties of fractured Champlain Sea clay in Eastern Ontario. Part 2. Contaminant transport. Garga, V.K., and O'Shaughnessy, V., 902